

Practice A

For use with pages 357–363

In Exercises 1–5, match the key word with the descriptive phrase.

- | | |
|-----------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. ratio of a to b | A. an equation that states that two ratios are equal |
| 2. proportion | B. the numbers b and c in the proportion $\frac{a}{b} = \frac{c}{d}$ |
| 3. means of a proportion | C. a comparison of a number a and a nonzero number b using division |
| 4. extremes of a proportion | D. the numbers a and d in the proportion $\frac{a}{b} = \frac{c}{d}$ |
| 5. cross product property | E. In a proportion, the product of the extremes is equal to the product of the means. |
| 6. Rewrite the ratio " a to b " two other ways. | |

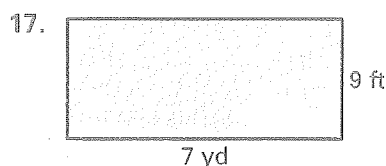
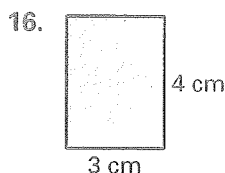
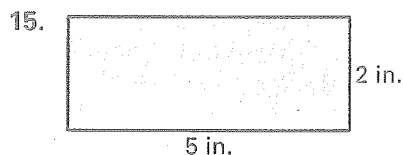
Simplify the ratio.

- | | | | |
|-----------------------------------------|----------------------------------------------|-----------------------------------------|-----------------------------------------------|
| 7. $\frac{18 \text{ ft}}{9 \text{ ft}}$ | 8. $\frac{24 \text{ wins}}{40 \text{ wins}}$ | 9. $\frac{7 \text{ cm}}{21 \text{ cm}}$ | 10. $\frac{9 \text{ months}}{1 \text{ year}}$ |
|-----------------------------------------|----------------------------------------------|-----------------------------------------|-----------------------------------------------|

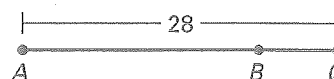
A basketball team won 24 games and lost 5. Find the ratio.

- | | |
|--------------------|------------------------------------------|
| 11. wins to losses | 12. wins to the number of games played |
| 13. losses to wins | 14. losses to the number of games played |

In Exercises 15–17, find the ratio of the width to the length of the rectangle.



18. In the diagram,
- $AB:BC$
- is 3:1 and
- $AC = 28$
- . Find
- AB
- and
- BC
- .



Solve the proportion.

- | | | |
|----------------------------------|----------------------------------|----------------------------------|
| 19. $\frac{2}{7} = \frac{x}{14}$ | 20. $\frac{12}{y} = \frac{6}{5}$ | 21. $\frac{4}{3} = \frac{n}{12}$ |
|----------------------------------|----------------------------------|----------------------------------|

In 1984, Yogi Berra managed the New York Yankees. That year the Yankees won 87 games and lost 75 games.

22. Find the ratio of wins to losses.
23. Find the ratio of wins to the number of games played.
24. Find the ratio of losses to wins.
25. Find the ratio of losses to the number of games played.

Practice B

For use with pages 357–363

Complete the statement.

1. A ratio is a comparison of a number a and a nonzero number b using ?.
2. An equation that states that two ratios are equal is called a ?.
3. In a proportion $\frac{a}{b} = \frac{c}{d}$, the numbers b and c are called the ? of the proportion.
4. In a proportion $\frac{a}{b} = \frac{c}{d}$, the numbers a and d are called the ? of the proportion.
5. In a proportion, the ? of the extremes is equal to the ? of the means.

Simplify the ratio.

6. $\frac{8 \text{ in.}}{24 \text{ in.}}$

7. $\frac{6 \text{ in.}}{2 \text{ ft}}$

8. $\frac{200 \text{ m}}{0.6 \text{ km}}$

9. $\frac{4 \text{ days}}{2 \text{ weeks}}$

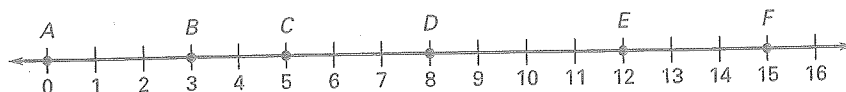
Use the number line to find the ratio of the lengths.

10. $AB:BC$

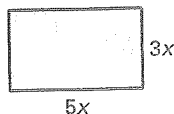
11. $BD:CD$

12. $CE:AC$

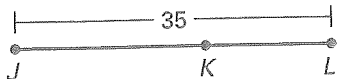
13. $BE:DF$



14. The perimeter of a rectangle is 48 inches. The ratio of the width to the length is 3:5, as shown. Find the width and the length of the rectangle.



15. The perimeter of a rectangle is 56 centimeters. The ratio of the length to the width is 4:3. Find the length and the width of the rectangle.
16. In the diagram, $JK:KL$ is 3:2 and $JL = 35$. Find JK and KL .



Solve the proportion.

17. $\frac{8}{3} = \frac{32}{y}$

18. $\frac{x+2}{10} = \frac{4}{5}$

19. $\frac{2}{3} = \frac{a-3}{6}$

A dairy farmer can sell the milk his cows produce at a rate of \$16 per 100 pounds.

20. Set up a proportion to find the number of dollars x the farmer can get for 1450 pounds of milk. Solve for x .
21. How many pounds of milk would the farmer have to sell to make \$500?